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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,402	12/03/2003	Takeshi Shintani	246100US3	5000
22850	7590	03/18/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			NGO, HOANG X	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary****Application No.**

10/725,402

**Applicant(s)**

SHINTANI ET AL.

**Examiner**

Hoang Ngo

**Art Unit**

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/2/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 9, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshikawa.

Yoshikawa discloses a cleaning unit 2 for cleaning residual toner on a surface of an image carrier 1 in an image forming apparatus comprising a cleaning blade 3 in contact with the surface of the image carrier (Fig. 1); wherein an amplitude of a waveform at an edge of the cleaning blade is not greater than 40  $\mu\text{m}$  with respect to a downstream side of a direction of movement of the image carrier (Col. 7, lines 20-43).

Yoshikawa further discloses a process cartridge further comprising a charging unit 6 or an exposing unit 9.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 2, 3, 10, 11, 16, 17, 23, 24, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa in view of Yagi et al.

Yoshikawa, as discussed above, discloses every aspect of Applicant's claimed invention with exception for specifically disclosing a nip width of the cleaning blade in a range of 5 – 30  $\mu\text{m}$ , that the cleaning blade in contact with the image carrier not greater than 200  $\mu\text{m}$ , and a coefficient of static friction of the surface of the image carrier is in a range of 0.1 to 0.4.

Yagi et al disclose a cleaning blade 211 in contact with an image carrier 1 having a nip width in a range of 5-30  $\mu\text{m}$  (see cleaning range by sliding of the charging member, Fig. 4) and in contact with the image carrier not greater than 200  $\mu\text{m}$  (Col. 24, lines 28-45).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the cleaning blade as taught by Yagi et al to the apparatus of Yoshikawa so that image smearing due to ineffective cleaning of the image carrier can be avoided.

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6. Claims 4-8, 12-16, and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa in view of Hisakuni.

Yoshikawa, as discussed above, discloses every aspect of Applicant's claimed invention with exception for specifically disclosing an angle of contact between the cleaning blade in contact with the image carrier in a range of 5 – 25 degrees; the cleaning blade having a JIS-A hardness in a range of 65-85 degrees; a pressure in a range of 10 – 60 gf/cm between the cleaning blade and the image carrier; a peak temperature of a loss tangent  $\tan$  of the cleaning blade in a range of –30 degrees C to 2 degrees C, and a rate of change of loss tangent in a range of 0.001 to 0.02 per degree.

Hisakuni discloses a cleaning blade 15 in press contact with an image carrier 2 wherein an angle of contact between the cleaning blade and the image carrier in a range of 5 – 25 degrees (i.e.  $\beta$  angle, Fig. 2); the cleaning blade having a JIS-A hardness in a range of 65-85 degrees (Col. 6, lines 1-2); a pressure in a range of 10 – 60 gf/cm between the cleaning blade and the image carrier (Col. 5, lines 26-28); a peak temperature of a loss tangent  $\tan$  of the cleaning blade in a range of –30 degrees C to 2 degrees C and a rate of change of loss tangent in a range of 0.001 to 0.02 per degree (Col. 8, lines 1- 48).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the cleaning blade as taught by Hisakuni to the apparatus of Yoshikawa so that image smearing due to ineffective cleaning of the image carrier can be avoided.

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7. Claims 18-21 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa in view of Hisakuni et al.

Yoshikawa, as discussed above, discloses every aspect of Applicant's claimed invention except for specifically disclosing the toner having a volume average particles size in a range of 3-8  $\mu\text{m}$  and a percentage content of number of toner in a range of 0.6 to 2.0  $\mu\text{m}$  is not less than 10 percent, a ratio of  $D_v/D_n$  of a volume average particle size is in a range of 1.05 to 1.40, and the toner having a shape factor SF-1 of the toner in a range of 100 – 180 and a shape factor SF-2 in a range of 100 – 190.

Hisakuni et al disclose a toner for use in image forming apparatus having a volume average particles size in a range of 3-8  $\mu\text{m}$  and a percentage content of number of toner in a range of 0.6 to 2.0  $\mu\text{m}$  is not less than 10 percent (Col. 9, lines 30-31); a ratio of  $D_v/D_n$  of a volume average particle size is in a range of 1.05 to 1.40 (Col. 10, line 51); the toner having a shape factor SF-1 of the toner in a range of 100 – 180 and a shape factor SF-2 in a range of 100 – 190 (Col. 32-50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the toner as taught by Hisakuni et al to the apparatus of Yoshikawa so that image smearing due to ineffective cleaning of the image carrier can be avoided.

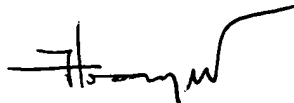
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang Ngo whose telephone number is (571) 272-2138. The examiner can normally be reached on 6:00am - 2:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hoang Ngo  
Primary Examiner  
Art Unit 2852

Hxn